# Development of a Selenium Standard for the Open Waters of Great Salt Lake

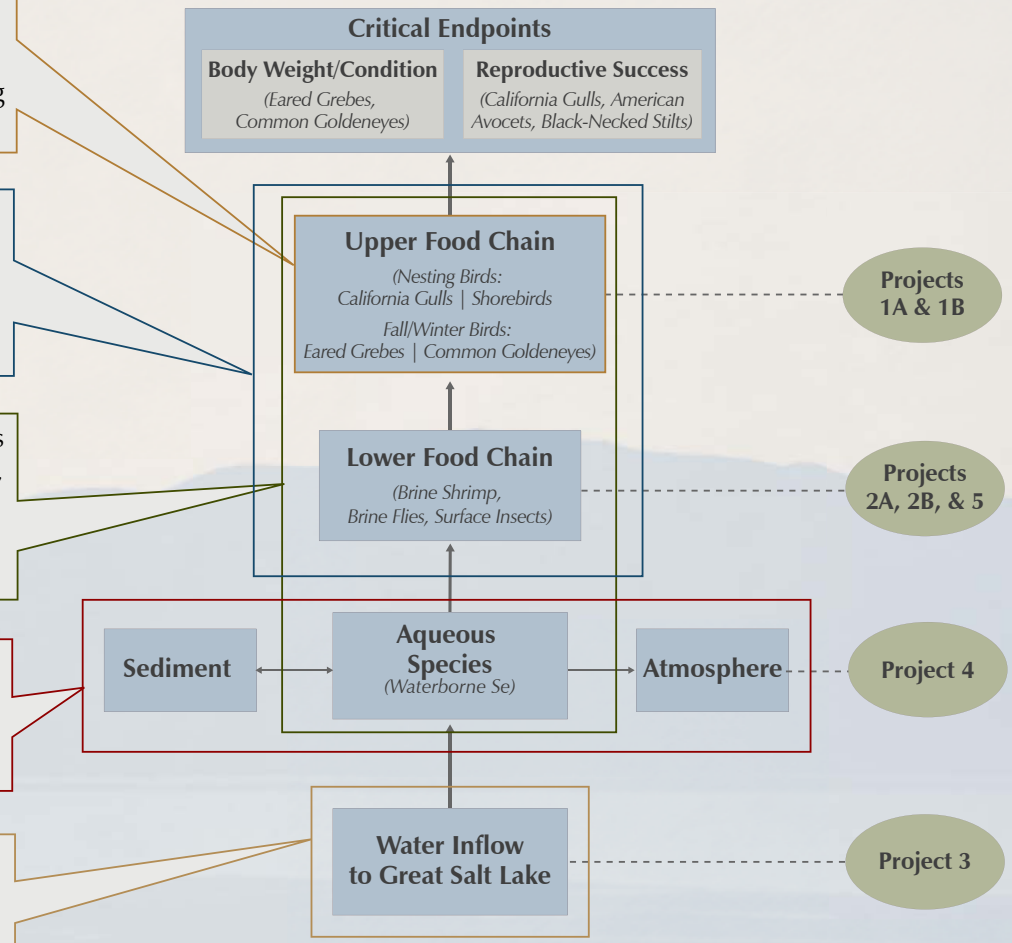
## *Great Salt Lake Water Quality Studies*

## *What was the objective of this program?*

### Central Question to Answer:

**What is the acceptable waterborne concentration of selenium that will prevent impairment of the beneficial uses of the open waters of Great Salt Lake? Specific questions were developed to support this overall decision and help define the individual projects completed as part of the program.**

1. Are significant ecological effects occurring in aquatic wildlife (i.e., the "Upper Food Chain" box)? If so, to which ones and at which locations? What are the associated selenium concentrations in tissues (including bird blood, liver, and eggs)?
2. What is the relative importance (based on selenium concentrations and their availability) of various food-chain exposure pathways for aquatic wildlife (i.e., linkage of "Lower Food Chain" to "Upper Food Chain" as highlighted in the blue box)?
3. What are the transfer factors that describe relationships between selenium concentrations in the water column, in bird diets, and the concentrations found in bird eggs (i.e., stepping down to the "Aquatic Species" of waterborne selenium highlighted in the green box)?
4. What are the most important processes that affect the partitioning, cycling, and release of selenium in the Great Salt Lake open waters (i.e., transport and fate of selenium in the ecosystem?
5. What are the sources of waterborne selenium entering Great Salt Lake, and what is the relative significance of each of the various sources?




Program Questions Relative to Projects